Video Graphic

MULTI SCAN

Putting Computer Graphics In The Picture

Recognizing the growing demand for large screen computer data display, Sony has developed the VPH-1031Q/1031QM Multiscan Projector. This new projector has multiscan capability, which is designed to display a wide range of data and images for video and computer sources, and is especially suitable for customers who need to project computer generated information. Sony's latest technologies are incorporated in the projector to provide many excellent features including precise picture reproduction, bright image display, and projection versatility. Furthermore, its compact size and user-friendly design simplify installation and operation.

With its high reliability and flexibility, the Multiscan Projector will provide the performance you need in a variety of applications.

VPH-1031Q

The Multiscan Video Projector

Features

Multiscan—f_H: 15kHz to 36kHz, f_V: 40Hz to 150Hz

The multiscan facility allows the projector to display images from a wide range of picture sources. The projectors automatically sense the frequency being used and lock onto it. The frequency ranges of acceptable RGB signals are 15kHz to 36kHz horizontally and 40Hz to 150Hz vertically to enable connections to most currently available computers, including IBM PCs with MDA, CGA, EGA, and PGA boards.

Therefore, the VPH-1031Q/1031QM will facilitate picture communication with a variety of picture sources, such as VTRs, cameras, video discs, and microcomputers.

Analog/Digital (TTL) RGB Signal Response

The VPH-1031Q/1031QM can accept TTL as well as analog RGB. Now various images, ranging from live camera pictures to computer data/graphics, can be projected on large screens.

High Resolution

The 1100 TV lines (RGB inputs)/650 TV lines (Video inputs) of the resolution are the result of an exclusive projection system consisting of new picture tubes, improved hybrid F1.0 dual focus lenses and features such as accurate focusing. Now that accurate dual focusing of the center area and peripheral areas can be performed independently, well-focused pictures can be shown on a screen from corner to corner.

Horizontal Shift

The horizontal shift adjustment was adopted to match the difference of horizontal RGB 1 and RGB 2 phases caused when switching two RGB inputs. With the H SHIFT volumes on the projector rear side, each horizontal position can be independently shifted.

Superimpose Facility

With no additional extra equipment, the data/characters from a microcomputer can be superimposed directly onto the picture from a video source (only when the microcomputer is connected to the RGB 2 connector [25-pin for VPH-1031Q; 21-pin for VPH-1031QM]).

Sync on Green

When the sync signal is sent with the green signal of an RGB signal, the VPH-1031Q/1031QM can automatically detect it and switch to the proper mode.

Versatility

The projectors are designed to be installed on desks or floors, or hung from ceilings. Flat or high gain concave screens are available, and even plain white walls can be substituted for a screen. What's more, just one VPH-1031Q/1031QM can be used with screens from 67″ to 250″ in size with a simple adjustment. With the VPH-1031Q/1031QM, more dynamic and eye-catching presentations are possible.

Worldwide Television Standards

Thanks to the quadra-decoder circuit, the projector conforms to the major TV standards: NTSC, PAL, SECAM and NTSC$_{4.43}$. This facility makes it possible to use tapes from virtually anywhere in the world.

Easy Adjustment and Operation

The VPH-1031Q/1031QM are designed to be easy-to-operate and easy-to-adjust, which contributes to the functional use of the projector. Complicated procedures and adjustments for projecting pictures are not required. Merely place the projector and adjust the setting with the control knobs and the projector is ready to use. The built-in cross-hair/cross-hatch test signal generator facilitates accurate focus and registration adjustments. A lamp inside the control panel, which lights when the panel opens, makes precise operation easy, even in the dark. In addition, adjustable legs are provided to allow various projecting angles. The VPH-1031Q/1031QM is perfect for use in various environments.

Built-in Speakers

Two speakers are built into the projector. Therefore, additional connections to PA facilities are not required.

Remote Control

The optional VPR-722S Remote Control Unit is available to operate the projector from up to 50 meters (165 feet) away. It can control most of the projector functions, such as power ON/OFF, RGB mode selection, brightness control, sharpness control, hue (NTSC), picture control, and volume control (when using VPR-722S, the function "BLUE MODE SELECT" changes to "RGB MODE SELECT").

Specifications

OPTICAL

Projection system: 3 picture tubes, 3 lenses, direct projection system

Picture tube: 5.5-inch high-luminance monochrome tubes, with coolant sealed

Projection lens: High-performance hybrid lenses F1.0/130mm

Projected picture size: 67″ to 250″ measured diagonally
Picture size is factory-adjusted to 100″
*When used with screens from 85″ to 150″ in size, focus and registration should be adjusted. When used with screens from 67″ to 85″ and from 150″ to 250″ in size, supplied wedge plates should be changed, and the ring attached around the lens should be adjusted as well.

Light output: 300 lumens

Throwing distance: 72″: Approx. 2,480mm (97³/₄″)
100″: Approx. 3,368mm (132⁵/₈″)
200″: Approx. 6,410mm (252¹/₂″)

GENERAL

Color standard: PAL, SECAM, NTSC and NTSC4.43, switched automatically

Resolution: Video inputs: 650 TV lines
RGB inputs: 1100 TV lines
Horizontal: 1500 dots
Graphic display capacity: 640 × 480 dots (with PGA board)

Horizontal frequency: 15kHz - 36kHz

Vertical frequency: 40Hz - 150Hz

Test signal: Cross-hair test pattern generator is incorporated

Speaker: 8cm, 2 units total 3W

Power requirements: VPH-1031Q: AC 120V, 50/60Hz
VPH-1031QM: AC 220 - 240V, 50/60Hz

Power consumption: VPH-1031Q: MAX. 215W
VPH-1031QM: 195W

Weight: Approx. 38 kg (83 lb 12·oz)

Dimensions: 532(W) × 280(H) × 597(D) (21 × 11 ¹/₈ × 23 ⁵/₈″)

Supplied accessory: AC power cord

Design and specifications subject to change without notice.

Optional accessories

Remote control
VPR-722S

Mounting bracket
PSS-722

Projector suspension support
PSS-10

Optional accessories

CCQ-5AR/10AR/25AR/50AR
(Extension cables, between VPR-722S and the projector)
*CCQ-BRS cables can also be connected to VPH-1031Q/1031QM
SU-722 (Projector pedestal)
VPS-100F1 (100″ flat screen)
VPS-72HG1 (72″ curved screen)
VPS-100HG1 (100″ curved screen)
VPS-700R (70″ rear screen)
VLC-1040 (Carrying case)
SMF-508 (Shielded cable, D-sub 9-pin ↔ D-sub 9-pin [Projector ↔ IBM PC with CGA])
PSS-722/PSS-10 (Projector suspension support)

Specifications for connectors

VIDEO/AUDIO INPUT

SIGNAL	CONNECTOR	SIGNAL LEVEL	REMARKS
VIDEO INPUT	<VIDEO IN> BNC	Composite Video 1Vp-p ±2dB	PAL/SECAM/NTSC/NTSC₄.₄₃ Sync negative 75 ohms terminated
AUDIO INPUT	<AUDIO IN> Phone	−5dBs (Q) 0.5Vrms (QM)	High impedance (more than 47k ohms)

VIDEO OUT

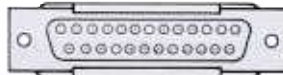| SIGNAL	CONNECTOR	SIGNAL LEVEL	REMARKS
VIDEO OUT	<VIDEO OUT> BNC	Composite Video 1Vp-p ±2dB	With remote controller: Signal from controller Without remote controller: Signal from VIDEO IN

RGB-1: D-sub (9-pin)

Digital signal (TTL level)

Pin No.	Signal assignment	Pin No.	Signal assignment
1	Ground	7	Not used
2	Ground	8	H. sync or composite sync input (positive/negative)
3	Red input		
4	Green input	9	V. sync input (positive/negative)
5	Blue input		
6	Intensity input		

Digital switch: No. 1: Intensity mode
No. 2: 3 bit normal mode

Audio signal: Pin connector −5dBs (Q), 0.5Vrms (QM)
Input impedance more than 47k ohms

### RGB-2: D-sub 25-pin connector for VPH-1031Q

Pin No.	Signal	Signal level
1*	IBM select	High (5V): IBM mode Low (ground): 3 bit normal mode
2	Audio select	High (5V or open): Audio input from pin 13. Low (ground): Audio input from the AUDIO IN jack
3	H. sync or composite sync input	Open state is selected at pin 9: Analog signal (1Vp-p, 75 ohms terminated, Negative). Low state is selected at pin 9: Digital signal (TTL level, Positive/Negative)
4	Blue input	High state is selected at pin 9: Analog signal (0.7Vp-p, 75 ohms terminated, Positive). Low state is selected at pin 9: Digital signal (TTL level, Positive)
5	Green input	
6	Red input	
7, 8	Not used	
9*	Analog/digital mode select	High (open): Analog mode Low (ground): Digital mode
10	RGB/VIDEO mode select	High (5V or open): RGB input from microcomputer Low (ground): Composite video signal from VIDEO IN connector
11	V. sync input	Positive/Negative. Digital signal (TTL level)
12	Blanking input	High (5V or open): RGB inputs from a microcomputer only Low (ground): Composite video input from VIDEO IN connector. This control signal makes it possible to superimpose. You can select two switches (NORMAL/SUPER). By selecting SUPER mode the superimpose function can be performed.
13	Audio input	Input level −5dBs. Input impedance more than 47k ohms
14	Sync mode select	High (open): Sync signal input from RGB-2 connector Low (ground): Sync signal input from the VIDEO IN connector
15-24	Ground	
25*	Luminance signal	Digital signal (TTL level, Positive)

*Example for microcomputer connections

Pin No. Microcomputer	1	9	25
SMC-70/SMC-70G	—	High state	—
IBM computer	High state	Low state	IBM luminance signal
TTL 3 bit computer	Low state	Low state	—

RGB-2: 21-pin connector for VPH-1031QM
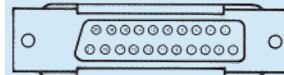
Pin No.	Signal	Signal level
1	Audio output B (right)	Standard level: 0.5Vrms Output impedance: less than 1k ohm*
2	Audio input B (right)	Standard level: 0.5Vrms Input impedance: more than 10k ohms
3	Audio output A (left)	Standard level: 0.5Vrms Output impedance: Less than 1k ohm
4	Ground (audio)	
5	Ground (blue)	
6	Audio input A (left)	Standard level: 0.5Vrms Input impedance: More than 10k ohms
7	Blue input	0.7V +2dB, 75 ohms, positive
8	Function select (AV control)	High state (9.5 - 12V): Peri mode Low state (0 - 2V): TV mode input impedance: More than 10k ohms Input capacitance: Less than 2 nF
9	Ground (green)	
10	Open	
11	Green input	(Same as Pin 7)
12	Open	
13	Ground (red)	
14	Ground (blanking)	
15	Red input	(Same as Pin 7)
16	Blanking input (Ys signal)	High state (1 - 3V), Low state (0 - 0.4V) Input impedance: 75 ohms
17	Ground (video output)	
18	Ground (video input)	
19	Video output	1V +2dB, 75 ohms, positive Sync: 0.3V±³dB
20	Video input	1V +2dB, 75 ohms, positive Sync: 0.3V±³dB
21	Common ground (plug, shield)	

*at 20Hz - 20kHz

Innovative CRT and Optical System

A new high performance hybrid lens and CRTs are provided to project crisp images, particularly computer generated characters, with absolute reliability.

High performance hybrid lens

The newly developed F1.0 hybrid lens consists of several glass and plastic lenses. As the main lenses are made of glass, the performance quality is equal to that of lenses made entirely of glass. The focusing capability has thus been improved on the entire screen, especially on corners. What's more, the new lens is superior in preventing color aberration than conventional ones and almost free from thermal drift, to contribute to high contrast, sharp, and clear color picture displays which can be used for long periods without color impurity or blurring. Therefore, the VPH-1031Q/1031QM Multiscan Projector can deliver computer data/graphics continuously and accurately.

Improved CRTs

With the high quality CRTs, the beam spot size is much smaller than before. The projector now can provide clearly legible characters, including the difficult to focus blue characters. The VPH-1031Q/1031QM is capable of displaying incredibly fine pictures, which is necessary for computer displays.
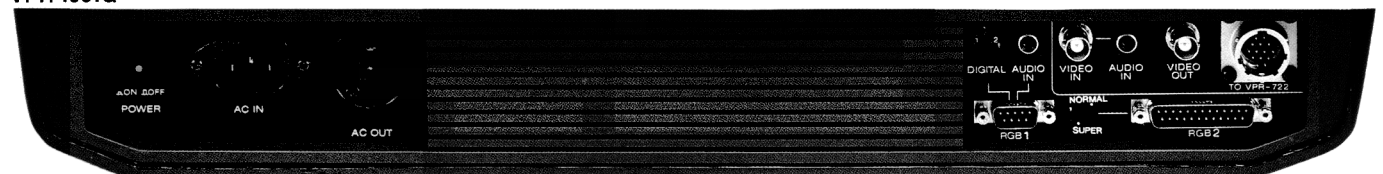

CRT Screen

Corner focus   Center focus
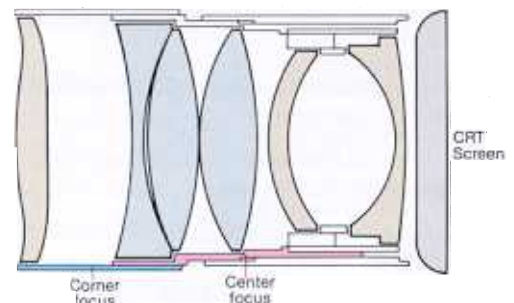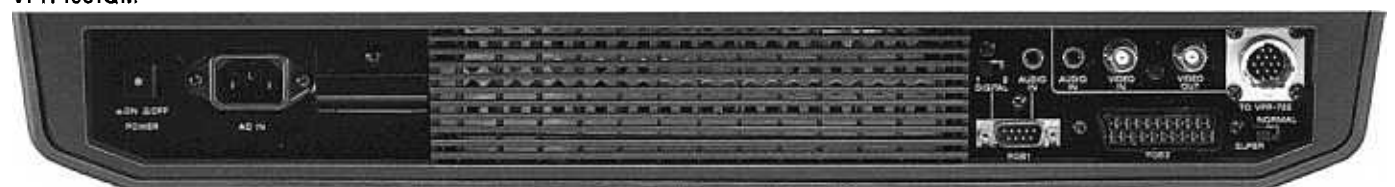
Rear control section of the Projector
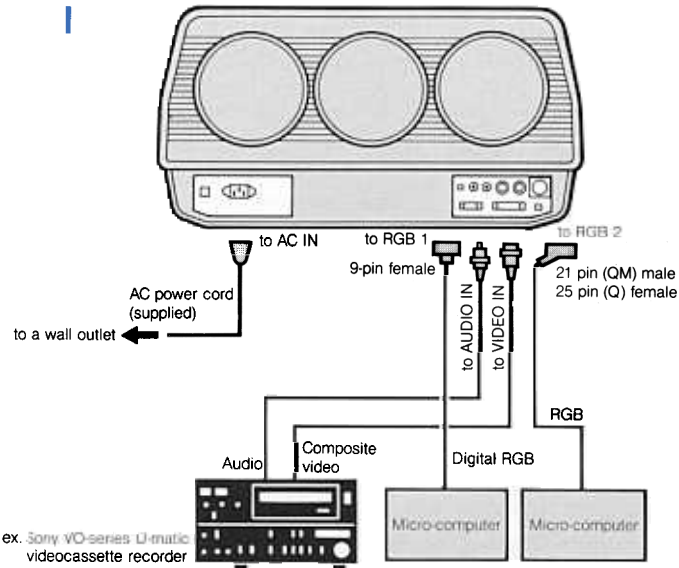

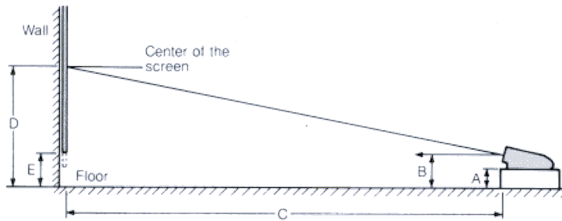# Lens side of the projector

VPH-1031Q

VPH-1031QM

System Connections

I

to AC IN — to RGB 1 — 9-pin female — to AUDIO IN — to VIDEO IN — to RGB 2 — 21 pin (QM) male / 25 pin (Q) female

AC power cord (supplied) → to a wall outlet

Audio — Composite video — Digital RGB — RGB

ex. Sony VO-series U-matic videocassette recorder — Micro-computer — Micro-computer

II

to AC IN — to RGB 1 — 9-pin female — 14-pin female — To VPR-722S — to RGB 2 — 21 pin (QM) male / 25 pin (Q) female

AC power cord (supplied) → to a wall outlet

VPR-722S — CCQ cable (optional) — 14-pin male

Composite video/Audio — Digital RGB — RGB

Micro-computer — Micro-computer
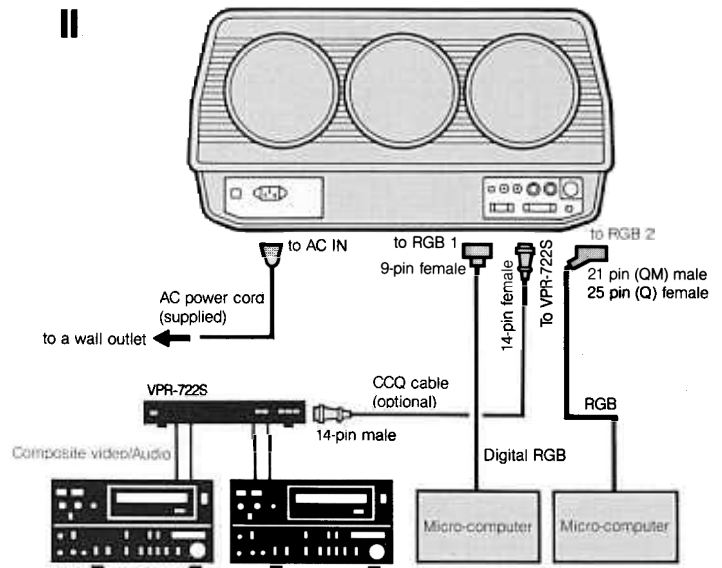
Flat screen/Desk top

Screen size		72 inches	100 inches	200 inches
A	mm	680 (26⁷/₈″)	680 (26⁷/₈″)	180 (7¹/₈″)
B	mm	857 (33³/₄″)	859 (33⁷/₈″)	360 (14¹/₄″)
C	mm	2430 (95³/₄″)	3294 (129³/₄″)	6410 (252¹/₂″)
D	mm	1354 (53³/₈″)	1561 (61¹/₂″)	1730 (68¹/₈″)
E	mm	804 (31³/₄″)	811 (32″)	210 (8³/₈″)

Flat screen/Ceiling
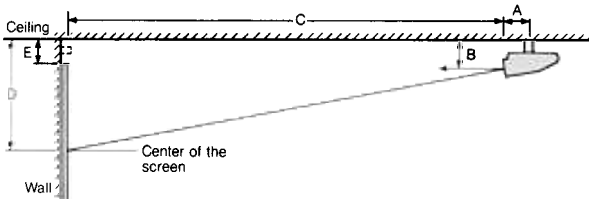
Screen size		72 inches	100 inches	200 inches
A	mm	255 (10¹/₈″)	255 (10¹/₈″)	255 (10¹/₈″)
B	mm	308 (12¹/₄″)	309 (12¹/₄″)	310 (12¹/₄″)
C	mm	2430 (95³/₄″)	3294 (129³/₄″)	6410 (252¹/₂″)
D	mm	805 (31³/₄″)	1012 (39⁷/₈″)	1680 (66¹/₄″)
E	mm	255 (10¹/₈″)	262 (10³/₈″)	160 (6³/₈″)

Curved screen/Desk top
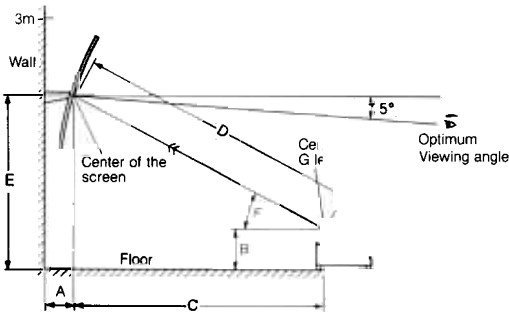
Screen size		72 inches	100 inches
A	mm	185 (7³/₈″)	305 (12¹/₈″)
B	mm	695 (27³/₈″)	461 (18¹/₄″)
C	mm	2187 (86¹/₈″)	2943 (116″)
D	mm	2480 (97³/₄″)	3368 (132⁵/₈″)
E	mm	1864 (73¹/₂″)	2099 (82³/₄″)
F		28°	29°

Curved screen/Ceiling
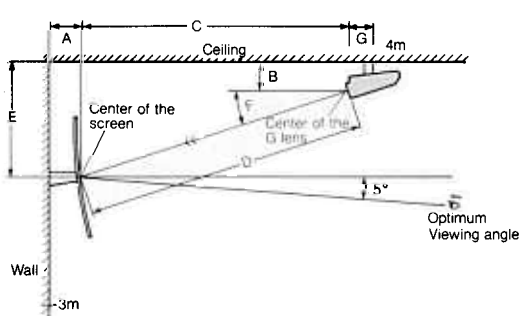
Screen size		72 inches	100 inches
A	mm	185 (7³/₈″)	305 (12¹/₈″)
B	mm	336 (13¹/₄″)	338 (13³/₈″)
C	mm	2357 (92⁷/₈″)	3183 (125³/₈″)
D	mm	2480 (97³/₄″)	3368 (132⁵/₈″)
E	mm	1108 (43⁵/₈″)	1440 (56³/₄″)
F		18°	19°
G	mm	230 (9¹/₈″)	225 (8⁷/₈″)